

We claim:

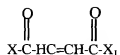
1. A process for making an aqueous hydrocarbon fuel composition comprising:
  - a) preparing at least one emulsifier to form a hydrocarbon fuel emulsifier mixture wherein the emulsifier comprises the reaction product of (A) a polyacidic polymer, (B) at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent, and (C) an amine selected from the group consisting of a hydroxy amine, polymer amine or combinations thereof;
  - b) mixing the emulsifier with a liquid hydrocarbon fuel to form a hydrocarbon fuel emulsifier mixture; and
  - c) mixing the hydrocarbon fuel emulsifier mixture with water or water and ammonium nitrate under emulsification conditions to form an aqueous hydrocarbon fuel composition, wherein the aqueous hydrocarbon fuel composition includes a discontinuous phase, the discontinuous phase being comprised of aqueous droplets having a mean diameter of 1.0 micron or less.
2. The process of claim 1 wherein the emulsifier comprises mixing the emulsifier with at least one of an ionic or non-ionic compound having a hydrophilic-lipophilic balance of about 1-40.
3. The process of claim 1 wherein the emulsifier comprises mixing the emulsifier with at least one of a water-soluble compound selected from the group consisting of amine salts, ammonium salts, azide compounds, nitrate esters, nitramine, nitro compounds, alkali metal salts, alkaline earth metal salts and combinations thereof.
4. The process of claim 2 wherein the emulsifier comprises mixing the emulsifier with at least one of a water-soluble compound selected from the group consisting of amine salts, ammonium salts, azide compounds, nitrate esters, nitramine, nitro compounds, alkali metal salts, alkaline earth metal salts and combinations thereof.
5. The process of claim 1 wherein the temperature in the range of 60°C to about 250°C, at atmospheric temperature until a crosslinked polymer dispersant is formed.

6. The process of claim 1 wherein the polyacidic polymer is selected from the group consisting of C<sub>4</sub> to C<sub>30</sub> olefin/maleic anhydride copolymers, maleic anhydride/styrene copolymers, polymaleic anhydride, acrylic and methacrylic acid containing polymers, poly-alkyl acrylates, reaction products of maleic anhydride with polymers with multiple double bonds and combinations thereof.
7. The process of claim 6 wherein the C<sub>4</sub> to C<sub>30</sub> olefin/maleic anhydride copolymer has the olefin selected from the group consisting of 1-butene, 1-pentene, 1-hexene, 1-heptene, 1-octene, 1-nonene, 1-decene, 1-undecene, 1-dodecene, 1-tridecene, 1-tetradecene, 1-pentadecene, 1-hexadecene, 1-heptadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-triacontene, and the like. The alpha olefin fractions that are useful include C<sub>15-18</sub> alpha-olefins, C<sub>12-16</sub> alpha-olefins, C<sub>14-16</sub> alpha-olefins, C<sub>14-18</sub> alpha-olefins, C<sub>16-18</sub> alpha-olefins, C<sub>18-24</sub> alpha-olefins, C<sub>18-30</sub> alpha-olefins, and combinations thereof.
8. The process of claim 1 wherein the hydrocarbon fuel emulsifier mixture is made by a method selected from the group consisting of condensation, condensation/polymerization process, and combinations thereof.
9. A process of claim 1 wherein the emulsifier is prepared by reacting A) a polyacidic polymer with a fuel soluble product comprising the reaction product of B) at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent and C) a hydroxy amine, a polyamine, or combinations thereof.
10. An aqueous hydrocarbon fuel composition comprising:
- a) a continuous phase of hydrocarbon fuel;
  - b) a discontinuous aqueous phase being comprised of aqueous droplets having a mean diameter of 1.0 micron or less; and
  - c) an emulsifying amount of an emulsifier composition comprising the reaction product of (A) a polyacidic polymer, (B) at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent and C) a hydroxy amine, a polyamine, or combinations thereof.

11. The composition of claim 10 wherein the emulsifier comprises a mixture of 1) the reaction product of A) a polyacidic polymer, B) at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent and C) a hydroxy amine and/or a polyamine mixed with 2) at least one of an ionic or non-ionic compound having a hydrophilic-lipophilic balance of about 1-40.
12. The composition of claim 10 wherein the emulsifier comprises a mixture of the 1) reaction product of A) a polyacidic polymer, B) at least one fuel-soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent and C) a hydroxy amine or a polyamine with 2) a water-soluble compound selected from the group consisting of amine salts, ammonium salts, azide compounds, nitrate esters, nitramine, nitro compounds, alkali metal salts, alkaline earth metal salts, and combinations thereof.
13. The composition of claim 10 wherein the emulsifier comprises a mixture of 1) the reaction product of A) a polyacidic polymer, B) at least one fuel soluble product made by reacting at least one hydrocarbyl-substituted carboxylic acid acylating agent and C) a hydroxy amine and/or a polyamine mixed with 2) at least one of an ionic or non-ionic compound having a hydrophilic-lipophilic balance of about 1-40, and with 3) a water-soluble compound selected from the group consisting of amine salts, ammonium salts, azide compounds, nitrate esters, nitramine, nitro compounds, alkali metal salts, alkaline earth metal salts, and combinations thereof.
14. The composition of claim 10 wherein the polyacidic polymer is selected from the group consisting of C<sub>4</sub> to C<sub>30</sub> olefin/maleic anhydride copolymers, maleic anhydride/styrene copolymers, polymaleic anhydride, acrylic and methacrylic acid and/or esters containing polymers, poly-alkyl acrylates, reaction products of maleic anhydride with polymers with multiple double bonds and combinations thereof.
15. The composition of claim 14 wherein the C<sub>4</sub> to C<sub>30</sub> olefin/maleic anhydride copolymer has the olefin selected from the group consisting of 1-butene, 1-pentene, 1-hexene, 1-

heptene, 1-octene, 1-nonene, 1-decene, 1-undecene, 1-dodecene, 1-tridecene, 1-tetradecene, 1-pentadecene, 1-hexadecene, 1-heptadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-triacontene, and the like. The alpha olefin fractions that are useful include C<sub>15-18</sub> alpha-olefins, C<sub>12-16</sub> alpha-olefins, C<sub>14-16</sub> alpha-olefins, C<sub>14-18</sub> alpha-olefins, C<sub>16-18</sub> alpha-olefins, C<sub>18-24</sub> alpha-olefins, C<sub>18-30</sub> alpha-olefins, and combinations thereof.

16. The composition of claim 10 wherein said polyacidic polymer is selected from the group consisting of C<sub>8</sub> to C<sub>20</sub> olefin/maleic anhydride copolymers.
17. The composition of claim 10 wherein said polyacidic polymer is selected from the group consisting of 1-octadecene/maleic anhydride copolymer.
18. The composition of claim 10 wherein the polyacidic polymer is a copolymer of an olefin and a compound having the structure



wherein X and X<sub>1</sub> are the same or different provided that at least one of X and X<sub>1</sub> is such that the copolymer can function as a carboxylic acylating agent.

19. The composition of claim 10 wherein the polyacidic polymer is a copolymer of octadecene-1 and maleic anhydride, the copolymer having a number average molecular weight from greater than 6300 to less than 12000.
20. The composition of claim 10 wherein the emulsifier comprises about 25% to about 95% of the fuel soluble product and about 0.1% to about 50% of polyacidic polymer.
21. The composition of claim 10 wherein the emulsifier comprises about 50% to about 92% of the fuel soluble product and about 1% to about 20% of polyacidic polymer.
22. The composition of claim 10 wherein the emulsifier comprises about 70% to about 90% of the fuel soluble product and about 5% to about 10% of polyacidic polymer.